

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED
OCT 10 1995
FCC MAIL ROOM

In the Matter of

Reply to Comments for the Amendment of) CC Docket No. 92-297
Parts 1, 2, 21, and 25 of the Commission's)
Rules to Redesignate the 27.5 - 29.5 GHz)
Frequency Band, to Reallocate the 29.5 -)
30.0 GHz Frequency Band, to Establish)
Rules and Policies for Local Multipoint)
Distribution Service and for Fixed)
Satellite Services)

DOCKET FILE COPY ORIGINAL

and)

Suite 12 Group Petition for Pioneer's) PP-22
Preference)

**COMMENTS OF
GHz EQUIPMENT COMPANY, INC.**

GHz Equipment Company, Inc. ("GEC") hereby submits these remarks in response to the Comments to the Third Notice of Proposed Rulemaking and Supplemental Tentative Decision in the captioned proceeding, released July 28, 1995 ("*NPRM*").

I. Introduction

GHz Equipment Company, Inc. is a millimeter wave equipment manufacturer that has developed equipment for various bands including 28, and 40.5 to 42.5 GHz bands primarily for video distribution. GEC is prepared to comment, given empirical experience in its technology and from its founders' considerable experience in the wireless cable TV industry.

No. of Copies rec'd 041
List ABCDE

II. Comments

- **Rio Vision of Texas, PBS, and others have concerns for an education set-a-side.**

GEC believes that 1 GHz is barely sufficient for an LMDS operation. A set-a-side would subtract from the viability of an operation. The 40.5 to 42.5 GHz band may be a better location for such an allocation.

- **NASA, Texas Instruments and others have indicated that LMDS may utilize less spectrum by employing digital compression.**

GEC believes that while their arguments may have technical validity, the solution does not reflect market realities. Digital set-top boxes can be sold for \$500 each in large quantities, and there is hope that they will one day be available as low as \$350. This would bring the total cost of customer premise equipment (CPE) and installation per household well into the \$650 to \$800 range. In the highly competitive U.S. markets of tomorrow there will not be room for a wireless operation that could absorb such costs. Even now DBS, with its digital equipment, is forced to sell its CPE, a tactic that would not work directly against CATV.

- **Andrew and others suggest there is still a sharing scenario wherein terrestrial and satellites could both utilize an expanded spectrum.**

GEC feels that while there may be long term technical merit to their arguments, the time to sort out the wishful thinking from the technically sound arguments together with the time to formulate rules would delay LMDS proliferation by valuable years. In the long run, the time required for the process would hurt LMDS to a far greater extent than the spectrum that it might gain.

- **CTA suggests that a faster build-out may be in order.**

Present day millimeter wave technology takes considerable time to produce prototype chips and down-converter enclosures. Once in the field, inevitable iterations to the initial designs will follow before true mass production may be accomplished. Considering the rules are not yet set and that industry must know the precise bands, bandwidths, and specifications required for which they will be expected to provide equipment, GEC feels that the proposed and tentative rules would tax the capabilities of the industry. However, with careful R & D management, the FCC's goals may be accomplished.

- **Harris Corporation-Farion Division suggests that point-to-point transmissions share with LMDS.**

GEC feels that while this may be possible, the LMDS licensee should be able to evaluate interference to its own signal and, where plausible, sublease to point-to-point concerns as the technology allows.

- **Entertainment Made Convenient International, Inc. proposes the spectrum be divided into smaller allocations:**

GEC strongly disagrees with their arguments. LMDS can make a business out of the proposed 1 GHz allocation but smaller allocations would render video distribution useless in competition with existing CATV.

- **The power limitations to -52 dBW/Hz.**

GEC feels, given the short propagation and highly directional characteristics of the spectrum, that the license holders should be able to increase the radiated power of the primary and repeater transmitters to greater levels (potentially -30 or -18 dBW as originally proposed). The reasons for limitation on power expressed during the Negotiated Rulemaking Committee's tenure dealt with LMDS interference into satellites that would

be operating on the same frequency. That is no longer an issue, Since the directional characteristics of the receiver antennae and the placement of transmitters by adjacent BTA operators will provide adequate isolation from other LMDS operators regardless of the effective operation power.

Iridium, during the NRMC, voiced concern over radiated power from the customer premise equipment (CPE), stating that CPE could be mis-aligned and pointed in the direction of low earth orbit satellites. GEC feels that CPE would only attempt to make contact with the headend once and if mis-aligned would cease operation due to its lack of response. Therefore, limitation may likewise be unnecessary at 29.1 to 29.25 GHz.


- **Appendix B, Third Notice of Proposed Rulemaking to amend Title 47 CFR Part 21.1019 to prohibit CPE transmissions:**

For many of the arguments as they pertain to power limitations, this is not necessary and would severely handicap an LMDS operation.

- **M3ITC paragraph 21. asserts that some pending applications with timely Petitions for Reconsideration should be reviewed:**

GHz Equipment Company, Inc. concurs. There are a limited number of significantly differing waiver requests that could be granted. These numbers would not approach the number necessary to be considered a "defacto-reallocation" of the spectrum.

Respectfully submitted by,
GHz Equipment Company, Inc.


Perry W. Haddon
Vice President

October 9, 1995

1834 E. Baseline Rd. Suite 202
Tempe, AZ 85283-1508
(602) 820-6865 Fax (602) 839-2565
GHzXMTR@goodnet.com